



Alton Coal Development, LLC

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Phone: 435-852-8531 Fax: 435-857-1192

February 1, 2016

Walter L. Baker, P.E.
Division Director
UDEQ - Division of Water Quality
195 North 1950 West
Salt Lake City, UT 84116

Dear Mr. Baker:

Alton Coal Development, LLC (ACD) currently operates under Utah Pollutant Discharge Elimination System (UPDES) Permit No. UT0025992 at the Coal Hollow Mine located in Kane County. The Coal Hollow Mine is an active surface coal mine that is approximately three miles southeast of Alton, Utah.

ACD is currently in the process of permitting an expansion of the Coal Hollow Mine (CHM), the North Private Lease (NPL). At the Division of Water Qualities request, ACD is providing the attached Level II Antidegradation Form to provide additional information for the permitting process.

I will make myself available if the need arises for further discussions. Please do not hesitate to contact me if you have questions or concerns.

Sincerely,

B. Kirk Nicholes
Environmental Specialist

**Antidegradation Review:
Coal Hollow Mine – North Private Lease**

Alton Coal Development, LLC

ANTIDEGRADATION REVIEW FORM

UTAH DIVISION OF WATER QUALITY

Instructions

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for both Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, the Division of Water Quality (DWQ) recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permits requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDES permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Part C and determine the parameters of concern (POC) in Part D. Once the POCs are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative in Part E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form must be signed, dated, and submitted to DWQ.

For additional clarification on the antidegradation review process and procedures, please contact Nicholas von Stackelberg (801-536-4374) or Jeff Ostermiller (801-536-4370).

Antidegradation Review Form

Part A: Applicant Information

Facility Name: Coal Hollow Mine

Facility Owner: Alton Coal Development, LLC.

Facility Location: S. Alton Road (approx. 1.0 miles Southeast of Alton, Utah)

Form Prepared By: Kirk Nicholes

Outfall Number: 4

Receiving Water: Unnamed Tributary to Kanab Creek, Kanab Creek

What Are the Designated Uses of the Receiving Water (R317-2-6)?

Domestic Water Supply: None
Recreation: 2B - Secondary Contact
Aquatic Life: 3C - Nongame Fish
Agricultural Water Supply: 4
Great Salt Lake: None

Category of Receiving Water (R317-2-3.2, -3.3, and -3.4): Category 3

UPDES Permit Number (if applicable): UT0025992

Effluent Flow Reviewed: Outfall 005 - 33,000, Outfall 006 - 26,000, Outfall 007 - 203,000, Outfall 008 - 117,000

Typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.

What is the application for? (check all that apply)

- ☒ A UPDES permit for a new facility, project, or outfall.
- ☐ A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- ☐ A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- ☐ A UPDES permit renewal with no changes in facility operations.

Part B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The receiving water or downstream water is a Class 1C drinking water source.

☐ Yes A Level II ADR is required (Proceed to Part C of the Form)

☒ No (Proceed to Part B2 of the Form)

B2. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

☐ Yes (Proceed to Part B3 of the Form)

☒ No No Level II ADR is required and there is no need to proceed further with review questions.

B3. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, an antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)

☐ Yes (Proceed to Part B4 of the Form)

☒ No No Level II ADR is required and there is no need to proceed further with review questions.

ACD has operated for 5 years with UPDES permit # UT0025992. During that time, very few discharges have occurred. Our review of records shows that the discharges from the currently permitted sediment pond outfalls have been in response to storm events and spring runoff. We have attached "Antidegradation Review and Statement of Social, Environmental, and Economic Importance: Coal Hollow Mine - North Private Lease" for your review.

Although Items B2 and B3 indicate that a Level II ADR is not required, ACD is providing the additional information in an effort to share this with the Division.

B4. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

☐ **Yes** Identify the reasons used to justify this determination in Part B4.1 and proceed to Part G. No Level II ADR is required.

☒ **No** A Level II ADR is required (Proceed to Part C)

The CHM facilities are expected to operate for more than 10 years. Generally potential discharges from the permitted outfalls are limited to storm water related discharges with sediment as the normal pollutant. As previously stated, normal operations at the Coal Hollow Mine are intended to occur with very few discharges.

B4.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (see R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):

☐ Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:

Level II ADR

Part C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Part G of the form.

Optional Report Name: Antidegradation Review and Statement of Social, Environmental, and Economic Importance: Coal Hollow Mine, North Private Lease

Part C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in this section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

Currently, ACD directly employs 54 workers at the Coal Hollow mine site from Kane, Garfield and Iron Counties. Additional 50-60 jobs are attributed to offsite support of mining operations. Expansion of the North Private Lease will preserve those jobs until the lease for Federal coal (LBA) has been finalized. Acquisition of the LBA would allow the mine to expand and directly employ 160 jobs in the area, and indirectly create between 240-480 jobs to support operations. ACD has been a key partner in preserving the "small-town nature" of communities in and around the Coal Hollow Mine and LBA tract. Currently, ACD is one of the Kane County's largest private employers. Since operations at Coal Hollow began in 2010 ACD has been a key community partner. ACD has invested in local infrastructure development, building the local firehouse and city park that serve the Town of Alton. ACD promotes local community activities, including sponsoring local high school sports teams and youth groups. ACD is a supporter of the local 4H Club and Junior Livestock Association. ACD sponsors local cultural activities, including the annual Panguitch Valley Balloon Rally. Moreover, ACD encourages its employees to be active community members.

The LBA, under the proposed action, is estimated in the SDEIS to provide approximately \$90 million in royalties over the life of the 25 year federal lease that would be dispersed to the State of Utah. Utah's Community Impact Board Fund ("CIB") will receive an estimated \$29.25 million. Funds distributed through the CIB are dispersed throughout Utah, including in Kane County.

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

As demonstrated by sage-grouse population growth at Coal Hollow, the Mitigation Plan for the North Private Lease and for the SDEIS will further enhance and expand greater sage-grouse habitat in the South Panguitch habitat area. Restoration and habitat expansion of over 8,000 acres are called for under the proposed Mitigation plans.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

The expansion to the Coal Hollow mine would extend the life of the Coal Hollow Mine and provide a steady source of funding to support economic diversification and infrastructure development for Kane County and the region.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.

Coal mine operations at Coal Hollow are the lifeblood of the Town of Alton and many other small-town communities in and around Kane County. Without natural resource and coal development, these communities would suffer a significant blow to their economic base.

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

ACD will construct the proposed sediment ponds 5, 6, 7, 8 and 9 near Kanab creek. These sediment ponds will control storm water runoff from the active mine site and during following reclamation activities until DOGM approves removal. The sediment ponds are proposed to have capacity larger than the calculated 10 year 24 hour storm event in an effort to reduce the potential for discharge to Kanab Creek and offsite drainages.

Part D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. *Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.*

Parameters of Concern:

Rank	Pollutant	Ambient Concentration	Effluent Concentration
1	None		
2			
3			
4			
5			

Pollutants Evaluated that are not Considered Parameters of Concern:

Pollutant	Ambient Concentration	Effluent Concentration	Justification
TDS		664 mg/L (avg.) See attached report	Lower average concentration than receiving waters. Infrequent discharge.
Iron (total)		0.99 mg/L (avg.) See attached report	Low concentration; similar to receiving waters during high-flow conditions. Iron in sediment can be removed through use of sediment ponds. Infrequent discharge.
Selenium (total)		0.018 mg/L (avg.) See attached report	Low concentration; similar to receiving waters. Meets State irrigation standards. Infrequent discharge.
Boron (total)		0.15 mg/L (avg.) See attached report	Low concentration, similar to receiving waters. Meets State irrigation standards. Infrequent discharge.

Part E. Alternative Analysis Requirements of a Level II

Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. No economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

☒ **Yes** (Proceed to Part F)

☐ **No or Does Not Apply** (Proceed to E2)

E2. Attach as an appendix to this form a report that describes the following factors for all alternative treatment options (see 1) a technical description of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name:

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLA) and any secondary or categorical effluent limits.

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	No	
Water Recycling/Reuse	Yes	ACD uses sediment pond water for dust control
Land Application	Yes	ACD uses sediment pond water for dust control
Connection to Other Facilities	No	No other facilities available
Upgrade to Existing Facility	No	Existing sediment ponds are approximately 1.5 miles from
Total Containment	No	ACD has designed sediment ponds to contain the 10 year 24 hour storm event but needs an approved outfall in the event of larger or multiple storm events.
Improved O&M of Existing Systems	No	Existing sediment ponds are not available downstream of designed controls
Seasonal or Controlled Discharge	No	Potential discharges are related to unpredictable occurrences of storms larger than the designed storm event
New Construction	Yes	Sediment ponds 5, 6, 7, 8 and 9 are planned new construction
No Discharge	Yes	ACD intends to contain the 10 year 24 hour storm event but needs an approved outfall in the event of a larger storm or multiple storms

E5. From the applicant's perspective, what is the preferred treatment option?

Design of sedimentation ponds 5, 6, 7, 8 and 9 have been to contain the runoff, from the NPL mining area, of at least the 10 year 24 hour event and more where space was available to oversize the ponds capacity. ACD normally looks for opportunities to reuse detained water for dust control purposes rather than allowing a sediment pond to overflow from successive storms.

E6. Is the preferred option also the least polluting feasible alternative?

☒ Yes

☐ No

If no, what were less degrading feasible alternative(s)?

If no, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

Part F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

☒ No

☐ Yes

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

☒ No

☐ Yes

Report Name:

ACD is requesting the amended UPDES permit with no changes to the existing concentrations or loading limits. The proposed construction of sediment ponds 5, 6, 7, 8, and 9 and the control and monitoring of any discharge from there outfalls are the mitigation plan to minimize the potential for water quality degradation.

Part G. Certification of Antidegradation Review

G1. Applicant Certification

The form should be signed by the same responsible person who signed the accompanying permit application or certification.

Based on my inquiry of the person(s) who manage the system or those persons directly responsible for gathering the information, the information in this form and associated documents is, to the best of my knowledge and belief, true, accurate, and complete.

Print Name: B. Kirk Nicholas

Signature: B. Kirk Nicholas

Date: 02/02/2016

G2. DWO Approval

To the best of my knowledge, the ADR was conducted in accordance with the rules and regulations outlined in UAC R-317-2-3.

Water Quality Management Section

Print Name: DAVE WHAM

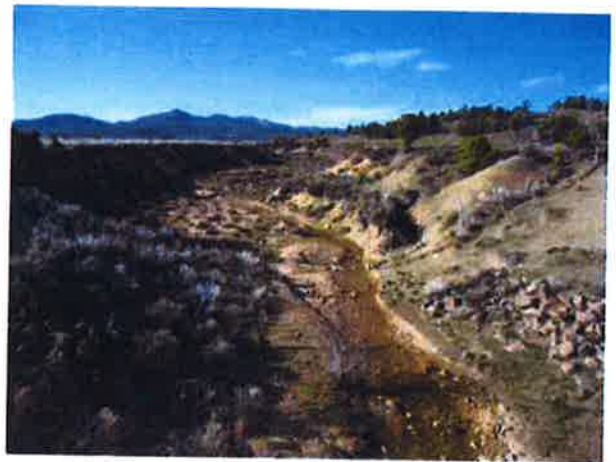
Signature: Dave Wham

Date: 3/9/16

**Antidegradation Review and
Statement of Social,
Environmental, and
Economic Importance:
Coal Hollow Mine -
North Private Lease**

28 January 2016

Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84721



PETERSEN HYDROLOGIC, LLC
CONSULTANTS IN HYDROGEOLOGY

**Antidegradation Review and
Statement of Social,
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28 January 2016

Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84721

Prepared by:



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**Antidegradation Review and
Statement of Social, Environmental, and
Economic Importance: Coal Hollow Mine North Private Lease**

Introduction

The Alton Coal Development, LLC (ACD) Coal Hollow Mine is located approximately 3 miles south of the town of Alton, Utah (Figure 1). A permit to operate the Coal Hollow Mine was issued on 10 November 2010. The first coal was mined in early February 2011. ACD was issued UPDES permit UTG040027 by the Utah Division of Water Quality (UDWQ) on 1 May 2009 which authorized discharge from the Coal Hollow Mine facility to Lower Robinson Creek and Sink Valley Wash, both tributaries to Kanab Creek. UTG040027 was a general permit for coal mining. ACD was issued an individual UPDES permit (UT0025992) by UDWQ on 6 August 2013 which authorizes discharges to these same tributaries to Kanab Creek.

Alton Coal Development, LLC is currently applying for a permit from the Utah Division of Oil, Gas and Mining to extend the mining operations at the existing Coal Hollow Mine into the coal reserves at the proposed North Private Lease (NPL) area (Figure 1). The North Private

Lease area is located 1.3 miles north of the current Coal Hollow Mine operations area and is part of the block of contiguous coal reserves proposed for mining operations at the Coal Hollow Mine that includes coal reserves of the Federal LBA (For which ACD has made application with the U.S. Bureau of Land Management).

This document is provided as part of Alton Coal Development's Antidegradation Review Application to the Utah Division of Water Quality for the North Private Lease. This report contains information regarding the projected water quality characteristics of UPDES discharges at the North Private Lease. It also contains a Statement of Social, Environmental, and Economic Importance of the mining in the North Private Lease at the Coal Hollow Mine.

Proposed Modifications to the Existing UPDES Permit

In conjunction with ACD's proposed mining operations in the North Private Lease area, the proposed sediment control plan includes the construction of five sediment ponds (See Figure 3; Ponds 5,6,7, 8, and 9). These ponds are designed (at a minimum) to contain the surface water runoff from disturbed mining areas associated with the 10-year, 24-hour storm event. Additionally, Pond 7 has been designed with additional storage capacity above that necessary to contain runoff from the 10-year, 24-hour storm event for the purpose of containing groundwater that could potentially be intercepted during mining operations. ACD is proposing that four additional outfalls be added to UPDES permit UT0025992 including Outfall 005 (discharge from Pond 5), Outfall 006 (discharge from Pond 6), Outfall 007 (discharge from Pond 7), and Outfall 008 (discharge from Pond 9).

Surface-Water Hydrology

The North Private Lease area is situated within the Kanab Creek drainage (Figure 1). Surface-water runoff from most of the NPL drains directly to Kanab Creek (locally through one of several short tributary segments to Kanab Creek). Surface-water runoff in the southwestern portion of the NPL is to the Simpson Hollow Creek tributary to Kanab Creek. Simpson Hollow Creek flows into Kanab Creek about one mile south of the NPL at the location of monitoring station SW-15 (Figure 3). The proposed new UPDES outfalls 7 and 8 are directly to Kanab Creek. Outfalls 5 and 6 are to the Simpson Hollow Creek tributary (Figures 2 and 3).

Projected North Private Lease UPDES discharge water characteristics

Results of historic UPDES monitoring activities at the Coal Hollow Mine are presented in Table 1. Table 1 also includes the results of recent supplemental boron monitoring at UPDES outfalls. The required water quality and water quantity monitoring results are routinely submitted to the Utah Division of Water Quality by ACD as stipulated in the UPDES permit.

Historically, UPDES discharges of water at the Coal Hollow Mine have been infrequent (Table 1, Figure 4). When discharges have occurred, the discharge rates have generally been less than 50 gpm. It has been the experience at the Coal Hollow Mine that waters discharged through the UPDES outfalls have consisted primarily of precipitation runoff waters from the

mine area. The quantity of intercepted mine groundwater included in the UPDES effluent has been small, generally comprising less than 10 percent of the discharge (Personal communication, Kirk Nicholes, 2016). (It is noted that the discharges from outfall 005 that occurred in October-November 2011 were from an alluvial groundwater mine dewatering trench and these discharges did not contain appreciable surface water). The modest quantities of groundwater that have been intercepted in the mine pits (generally less than 25 gpm in total at any one time) have commonly been utilized for dust suppression water at the mine facility or left in the mine pits and buried in the backfill such that most of the intercepted groundwater is not routed to the UPDES discharge points. Because the UPDES discharges are generally related to the runoff of precipitation water, UPDES discharges have usually occurred in response to periods of unusually heavy precipitation or snow melt in the mine area. It is anticipated that similar conditions will prevail at the North Private Lease.

As specified in Part D of the Antidegradation Review Application, the applicant for a UPDES permit or permit modification is directed to identify parameter concentrations in the effluent from the facility. The Utah Division of Water Quality (DWQ) provides parameter concentrations for the receiving water for the antidegradation review.

The identification of likely parameter concentrations in the effluent water from mining operations at the NPL is based on the assumption that the parameter concentrations in effluent water in the NPL will be similar to those monitored previously at the existing Coal Hollow Mine (which consist primarily of precipitation runoff waters). This assumption is

based on the general similarity of the geologic strata present (i.e. Tropic Shale and alluvium), and the similarity of the climatic conditions in the two nearby mining areas.

In consultation with personnel from the Utah Division of Water Quality, chemical parameters focused on in this investigation include total dissolved solids (TDS), total iron, and total boron. Other parameters were also evaluated.

Total dissolved solids (TDS)

The TDS of a water is a laboratory-measured parameter which is a reflection of the sum of the dissolved constituents in the water. The TDS is often considered as a general indicator of the overall chemical quality of a water. The TDS concentrations of effluent from the existing Coal Hollow Mine outfalls have ranged from a low of 292 mg/L to a high of 1,820 mg/L. The average TDS value was 663 mg/L and the median value was 592 mg/L (Table 1). On all but one of the 37 sampling events, TDS concentrations were below 1,200 mg/L. Similar concentrations of TDS are anticipated in effluent from the NPL.

Iron (total)

Iron is naturally present in the geochemical environment (rocks and sediments) of the Coal Hollow Mine and surrounding area. Iron has been identified in substantial quantities in laboratory samples of the rocks and sediments in both the existing Coal Hollow Mine permit area and the NPL (See Appendix 6-2 of the Coal Hollow Mine MRP). Where a discharge water includes sediment composed of iron-bearing minerals, it would be anticipated that iron

would be detected in the total iron analysis. Iron in coal mine waters water may also result from the oxidation of sulfide minerals in coal mining environments.

The total iron concentrations in the UPDES discharge waters at the existing Coal Hollow Mine have ranged from a low of <0.02 mg/L to a maximum of 4.99 mg/L. The average total iron concentration was 0.99 mg/L and the median concentration was 0.65 mg/L (Table 1).

Boron (total)

The monitoring parameters stipulated in the UPDES permit for the Coal Hollow Mine do not include boron. However, in conjunction with the ADR for the NPL, supplemental monitoring for boron was performed on 20 recent samples of effluent from the existing Coal Hollow Mine (Table 1).

Total boron concentrations in these samples ranged from a minimum of 0.07 mg/L to a maximum of 2.41 mg/L. The average total boron concentration was 0.42 mg/L with a median value of 0.17 mg/L (Table 1). It is noted that total boron concentrations for 15 of the 20 samples were 0.20 mg/L or less (including all discharges from outfalls 002, 003, and 004). The higher boron concentrations measured in Pond 1 and Pond 1B are likely attributable to interactions of surface-water runoff with coal sediments in the drainage areas for these two ponds (which include the coal stockpiles and coal loadout facilities).

The results of sampling and analysis of soluble boron concentrations in the soils and rocks overlying the coal seam to be mined at the NPL indicate that boron concentrations do not

exceed the 5.0 mg/kg state suitability criteria for topsoil and overburden (See Coal Hollow Mine MRP, Chapter 6, Appendix 6-2, and Long, 2014).

With regard to the ADR for the North Private Lease area, it is considered likely that effluent from the new discharge points in the NPL will have boron concentrations similar to those measured at existing UPDES outfalls 002, 003, and 004 (average 0.15 mg/L). As discussed above, the boron measured in outfalls 001 and 001B is likely related to runoff from the coal stockpile and loadout facility areas. Mining operations in the NPL will utilize the existing coal stockpile and loadout facilities at the Coal Hollow Mine and no such facilities are planned for the NPL.

Sediment

Sediment is naturally present in surface waters in the Coal Hollow Mine and surrounding area. This is due largely to the active erosion of unconsolidated sediments regionally and to the abundant presence of fine-grained silt and clay particles at the land surface that originate from erosion the Tropic Shale and other fine-grained deposits in the Coal Hollow Mine vicinity (Petersen Hydrologic, 2007). The fine-grained particles are readily suspended in surface waters. Treatment for sediment in waters is accomplished through the use of sediment ponds and other best management practices at the mine.

Social, Environmental, and Economic Importance of mining in the North Private Lease

Currently, ACD directly employs 54 workers at the Coal Hollow mine site from Kane, Garfield and Iron Counties. Additional 50-60 jobs are attributed to offsite support of mining operations. Expansion of the North Private Lease will preserve those jobs until the lease for Federal coal (LBA) has been finalized. Acquisition of the LBA would allow the mine to expand and directly employ 160 jobs in the area, and indirectly create between 240-480 jobs to support operations. ACD has been a key partner in preserving the “small-town nature” of communities in and around the Coal Hollow Mine and LBA tract. Currently, ACD is one of Kane County’s largest private employers. Since operations at Coal Hollow began in 2010 ACD has been a key community partner. ACD has invested in local infrastructure development, building the local firehouse and city park that serve the Town of Alton. ACD promotes local community activities, including sponsoring local high school sports teams and youth groups. ACD is a supporter of the local 4H Club and Junior Livestock Association. ACD sponsors local cultural activities, including the annual Panguitch Valley Balloon Rally. Moreover, ACD encourages its employees to be active community members.

The LBA, under the proposed action, is estimated in the SDEIS to provide approximately \$90 million in royalties over the life of the 25 year federal lease that would be dispersed to the State of Utah. Utah’s Community Impact Board Fund (“CIB”) will receive an estimated \$29.25 million. Funds distributed through the CIB are dispersed throughout Utah, including in Kane County.

As demonstrated by sage-grouse population growth at Coal Hollow, the Mitigation Plan for the North Private Lease and for the SDEIS will further enhance and expand greater sage-grouse habitat in the South Panguitch habitat area. Restoration and habitat expansion of over 8,000 acres are called for under the proposed Mitigation plans.

The expansion to the Coal Hollow mine would extend the life of the Coal Hollow Mine and provide a steady source of funding to support economic diversification and infrastructure development for Kane County and the region.

Coal mine operations at Coal Hollow are the lifeblood of the Town of Alton and many other small-town communities in and around Kane County. Without natural resource and coal development, these communities would suffer a significant blow to their economic base.

ACD will construct the proposed sediment ponds 5, 6, 7, 8 and 9 near Kanab Creek. These sediment ponds will control storm water runoff from the active mine site and during following reclamation activities until DOGM approves removal. The sediment ponds are proposed to have capacity larger than the calculated 10 year 24 hour storm event in an effort to reduce the potential for discharge to Kanab Creek and offsite drainages.

References Cited

Long, R.E., 2014, Order 2 Soil Survey of the North Private Lease Area, A report prepared for Alton Coal Development, LLC by Long Resource Consultants, Inc., Morgan UT.

Petersen Hydrologic, 2007, Investigation of groundwater and surface-water systems in the 630-acre proposed Coal Hollow Mine permit and adjacent area; Probable hydrologic consequences of Coal Mining; Recommended monitoring plan; Potential Alluvial Valley Floor information; Kane County, Utah, Unpublished consulting report prepared for Alton Coal Development, LLC, Cedar City, Utah.

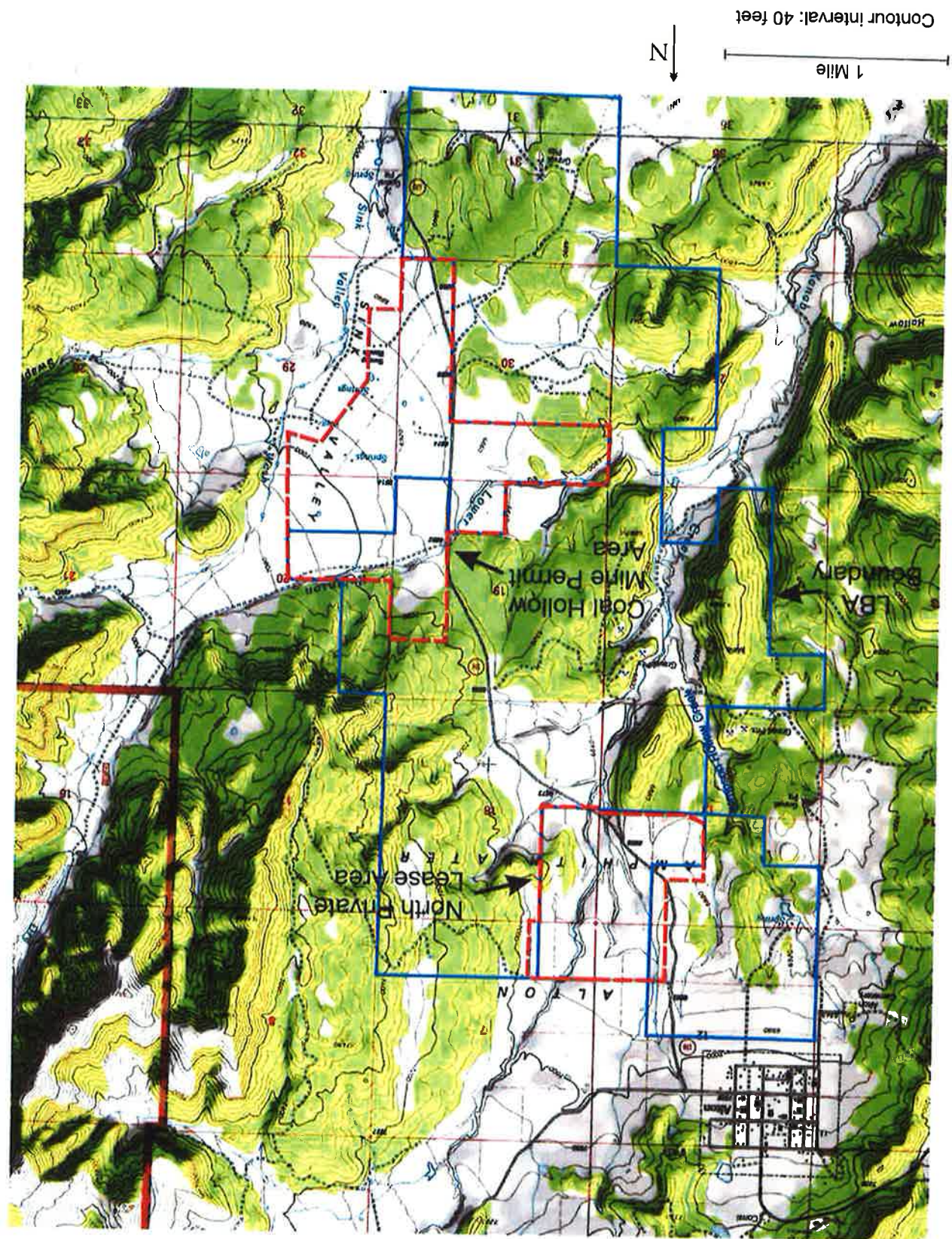
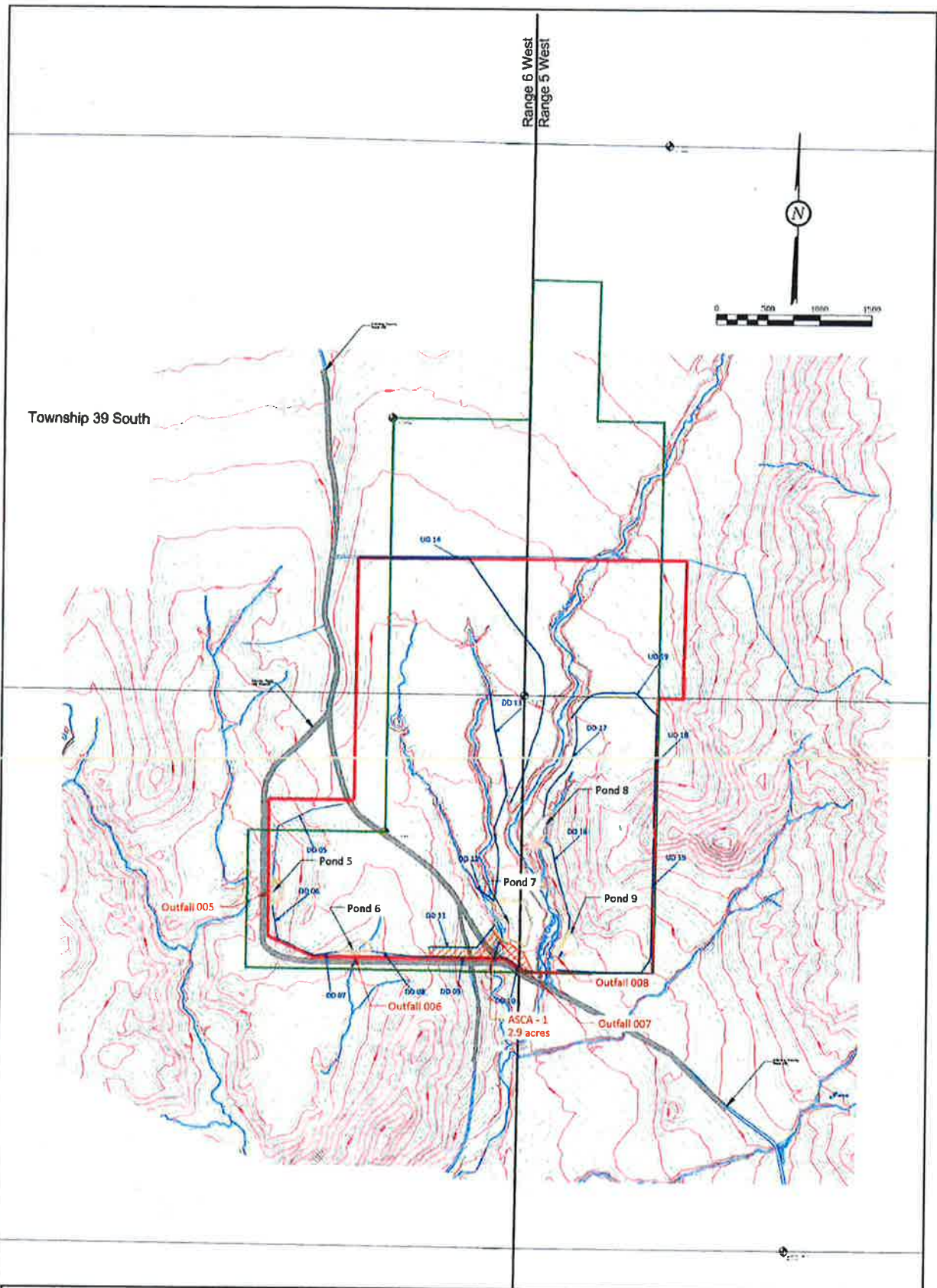


Figure 1 Location of the North Private Lease area at the Coal Hollow Mine.










LEGEND:		DRAWN BY:		CHECKED BY:		REVISIONS		OUTFALLS DIVERSION DITCH AND SEDIMENT IMPOUNDMENT PLAN VIEW			 463 North 100 West, Suite 1 Cedar City, Utah 84721 Phone (435) 867-5331 Fax (435) 867-1192
 PERMIT BOUNDARY	 PRIVATE COAL OWNERSHIP	A. CHRISTENSEN	DWG			DATE:	BY:				
 SECTION LINE		DRAWING:	DATE:			09/04/15	KN				
 FOUND SECTION CORNER		Figure 2	4/10/15								
 FOUND PROPERTY CORNER			SCALE:								
			1" = 400'								
		JOB NUMBER:	SHEET								
		0001							FIGURE - 2		

Table 1 Historic UPDES discharge monitoring data from the Coal Hollow Mine.

Note: Data only shown for months when discharge was occurring.

	Date	Flow (gpm)	TDS (mg/L)	Fe(t) (mg/L)	B(t) (mg/L)	B(d) (mg/L)	Oil & Grs. (mg/L)	pH	Se (d) (mg/L)	Set. Sol (ML/L)	TSS (mg/L)
Outfall 001	9-Sep-14	15.8	380	1.47	---	---	---	8.8	0.0015	---	47
Outfall 001	24-Mar-15	15.8	744	ND	---	---	ND	8.5	0.0005	---	ND
Outfall 001	17-Sep-15	7.2	788	0.03	2.41	2.33	ND	8.7	0.04	---	ND
Outfall 001	24-Sep-15	50.0	932	0.66	2.00	---	ND	8.0	0.05	---	40
Outfall 001	13-Oct-15	50.0	420	0.74	0.77	0.71	ND	7.7	0.02	---	13
Outfall 001	20-Oct-15	6.2	368	1.55	0.48	0.48	ND	8.0	0.02	ND	72
Outfall 001B	23-Sep-15	50.0	508	0.33	---	---	ND	7.9	0.02	---	18
Outfall 001B	20-Oct-15	5.9	468	2.16	0.44	0.53	ND	8.0	0.03	ND	50
Outfall 002	16-Mar-11	2	850	0.28	---	---	ND	7.9	---	---	12
Outfall 002	9-Sep-14	14.2	384	1.59	---	---	ND	8.9	0.0014	---	44
Outfall 002	24-Mar-15	0.5	1170	0.04	---	---	ND	8.7	0.0028	---	4
Outfall 002	24-Sep-15	0.001	584	0.54	0.19	---	ND	7.8	0.04	---	21
Outfall 002	28-Sep-15	50.0	576	0.7	---	---	ND	7.4	0.03	---	4
Outfall 002	20-Oct-15	6.0	412	0.62	0.12	0.13	ND	7.9	0.03	ND	14
Outfall 002	26-Oct-15	2.3	400	0.27	0.14	0.13	ND	7.8	0.03	---	5
Outfall 002	2-Nov-15	2.5	440	0.51	0.18	0.10	ND	7.7	0.04	ND	13
Outfall 003	16-Mar-11	15	830	1.6	---	---	ND	7.6	---	---	48
Outfall 003	25-Apr-11	1.3	1180	0.1	---	---	ND	8.6	---	---	7
Outfall 003	21-Nov-11	5	1820	0.04	---	---	ND	8.5	ND	---	10
Outfall 003	29-Sep-14	25	568	1.61	---	---	ND	8.9	0.0028	---	12
Outfall 003	20-Mar-15	25	724	0.35	---	---	ND	8.4	0.0020	---	14
Outfall 003	24-Mar-15	0.3	680	0.29	---	---	ND	9.0	0.0022	---	7
Outfall 003	17-Sep-15	20.0	580	1.9	0.20	0.19	ND	7.8	ND	---	26
Outfall 003	20-Sep-15	132.0	592	1.61	0.17	0.20	ND	8.4	ND	---	12
Outfall 003	20-Oct-15	24.0	684	4.56	0.11	0.12	ND	8.6	ND	ND	81
Outfall 003	30-Oct-15	40.0	528	4.99	0.14	---	ND	7.7	---	ND	296
Outfall 003	2-Nov-15	30.0	588	1.32	0.15	0.11	ND	8.1	0.02	ND	24
Outfall 003	9-Nov-15	30.0	584	1.09	0.15	0.16	ND	7.9	0.02	---	20
Outfall 003	18-Nov-15	30.0	612	1.75	---	---	ND	7.9	0.0033	---	80
Outfall 003	23-Nov-15	30.0	612	0.64	0.19	---	ND	8.2	0.0028	---	20
Outfall 003	30-Nov-15	30.0	692	0.12	0.15	0.18	ND	8.3	0.03	---	10
Outfall 003	7-Dec-15	30.0	752	0.19	0.17	0.19	ND	8	0.03	---	10
Outfall 004	22-Oct-15	6.0	316	1.08	0.07	---	ND	8.4	0.0009	ND	6
Outfall 004	26-Oct-15	6.0	292	0.65	0.08	0.07	ND	8.2	0.02	---	6
Outfall 005	4-Oct-11	6.0	950	ND	---	---	ND	8.1	0.03	---	32
Outfall 005	21-Oct-11	4.0	836	0.47	---	---	ND	8.1	0.03	---	35
Outfall 005	21-Nov-11	5.0	704	0.83	---	---	6	8.4	ND	---	55
n			37	37	20	15	36	37	33	8	35
Maximum			1820	4.99	2.41	2.33	6	9.0	0.05	ND	296
Minimum			292	ND	0.07	0.07	ND	7.4	ND	ND	ND
Median			592	0.66	0.17	0.18	ND	8.1	0.020	ND	14.0
Average*			663	0.99	0.42	0.38	ND	8.2	0.018	ND	31.8

* To calculate averages where "ND" was reported, a value of 1/2 of the detection limit was used in calculations.

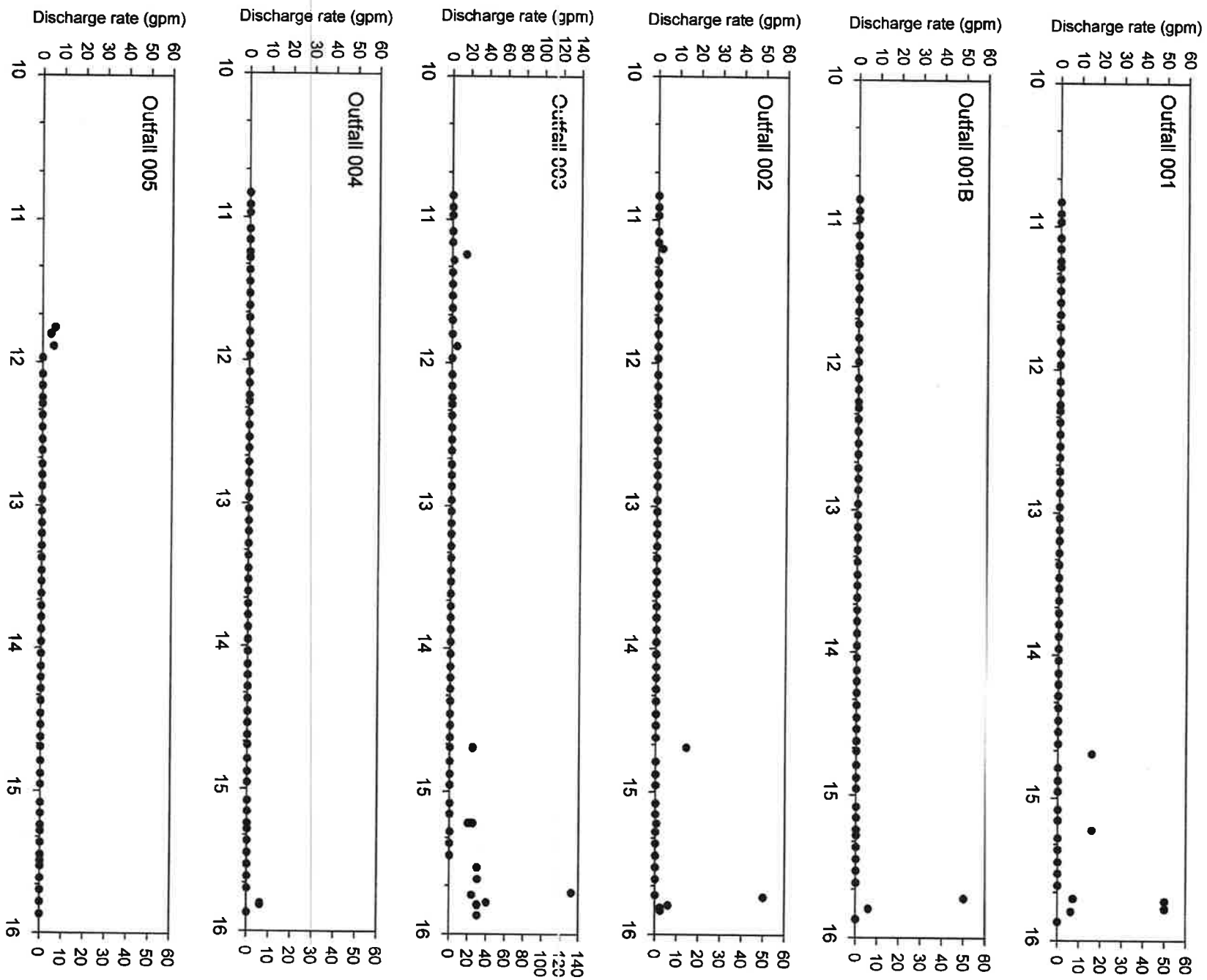


Figure 4 Discharge rates from UPDES outfalls at the Coal Hollow Mine.